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Tektronix

TF-TekProtect Health Checker

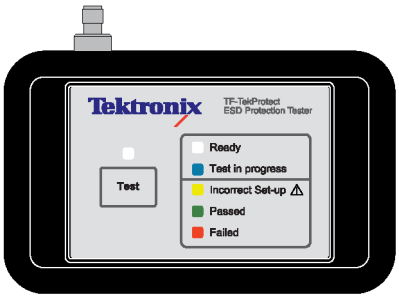
User Manual

1
071-3376-01

TF-TekProtect Health Checker Instructions

TekProtect circuitry directs EOS and ESD events to ground, protecting your instrument. The Health Checker quickly lets you know if the TekProtect circuitry is good or has been damaged due to electric overload stress (EOS) or electrostatic discharge (ESD).

TekProtect circuitry is expected to fail after one or more EOS or ESD events. If TekProtect has failed, your instrument input circuitry is no longer protected, hence the need for the Health Checker.



Best practices to prevent ESD

CAUTION. *Electrostatic discharge (ESD) can damage the 80A09, sampling module, and MSO/DPO70000 Series electrical inputs and outputs. Observe the following guidelines to prevent ESD when using the instruments or anytime that you are connecting signals.*

- Always wear a grounded antistatic wrist strap when handling the instruments or when connecting cables to the instruments.
- Wear anti-static clothing and work in a static-free area when using sampling modules.
- Safely discharge the center lead of all cables to ground before connecting them to the 80A09, sampling modules, or the oscilloscope mainframe.
- Do not create an ESD antenna by leaving cables attached to the instrument input with the other end of the cable open.
- Always store and transport the 80A09 and sampling modules in a static-free container, with all supplied terminations installed.

CAUTION. *Observe all terminal ratings. To avoid damaging the instrument, observe all ratings and markings on the product. Consult the product manual for further ratings information before making connections to the product. Do not apply a potential to any terminal, including the common terminal, that exceeds the maximum rating of that terminal.*

Testing the 80A09 Protector

Use the following procedure to verify that the 80A09 is fully functional to protect the sampling module from ESD (do these steps before major testing sessions, or as part of a scheduled routine maintenance):

Required test equipment

- USB to Micro-USB cable

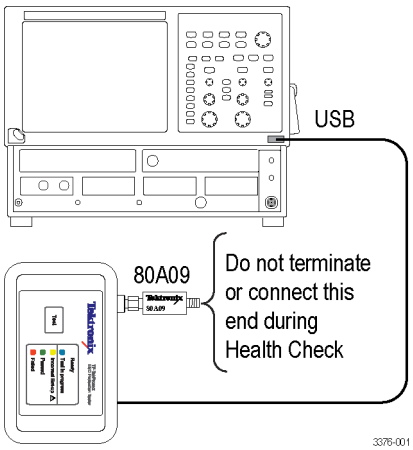
Procedure

CAUTION. *Follow ESD handling guidelines when connecting cables to the 80A09.*

1. If connected, remove the cable from the 80A09.
2. Remove the 80A09 from the 80Exx module input.

CAUTION. *Do not perform this test with the 80A09 connected to the 80Exx. Doing so can damage the 80Exx module input. Do not connect a ground or 50 Ω terminator to the 80A09.*

3. Connect the USB cable, Health Checker and 80A09 as shown in the following figure.
4. Press Test on the TF-TekProtect Health Checker.
5. If the Health Checker status indicator is green, the 80A09 is fully functional.
6. If the Health Checker status indicator is red, the 80A09 can no longer provide ESD protection. Do not use a defective 80A09 with an 80Exx. Contact Tektronix Customer Support to order a replacement 80A09 ESD Protection Device.
7. Repeat these steps to test other 80A09 devices.

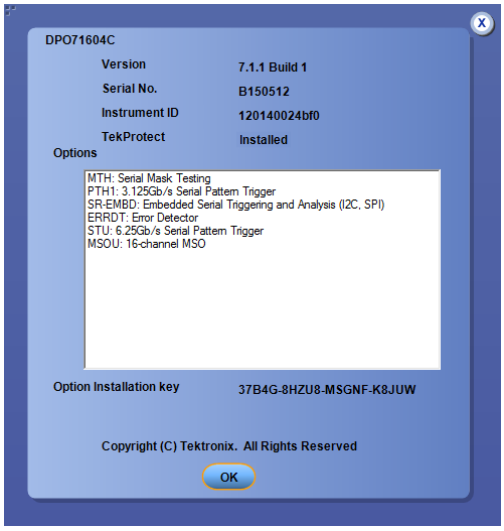


Testing TekProtect in MSO/DPO70000 instruments

This procedure is only for MSO/DPO70000C instruments that have TekProtect installed. TekProtect provides protection from electrical overstress (EOS) and electrostatic discharge (ESD) on the four analog input channels.

Is TekProtect installed? On MSO/DPO70000C models, About TekScope indicates if TekProtect is Installed or Not Installed on the instrument.

From the Help menu, select About TekScope. Verify that TekProtect status is Installed.



CAUTION. *To prevent instrument damage, do not attempt to use the Health Checker on an instrument that does not have TekProtect installed.*

Use the following procedure to verify that the instrument TekProtect is fully functional to protect the inputs from ESD (do these steps before major testing sessions, or as part of a scheduled routine maintenance):

Required test equipment

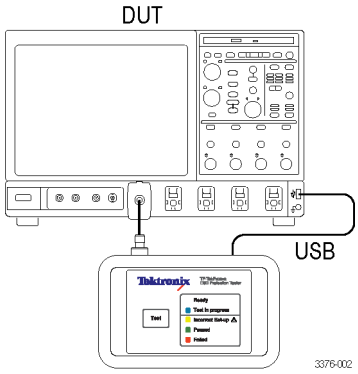
- USB to Micro-USB cable
- Adapter, TCA-292MM
- Cable, SMA-Male to SMA-Male

Procedure

1. Install the test hookup and preset the instrument controls:
   - Initialize the instrument: Push the Default Setup button on the MSO/DPO70000C front panel.
   - Connect the USB cable from the Health Checker to any available USB port on the oscilloscope. Connect the SMA cable from the Health Checker SMA port to the oscilloscope channel to be tested.

NOTE. *For additional information on the Talker Listener, click All Programs > TekVISA > OpenChoice Talker Listener. Then click Help > Talker Listener Help.*

   - Using the instrument OpenChoice Talker Listener, send the `IMPOSE:CHECKESD` command to the oscilloscope. Do not make additional settings changes to the instrument.



2. Press Test on the TF-TekProtect health checker.
3. If the Health Checker status indicator is green, the oscilloscope TekProtect is fully functional.
4. If the Health Checker status indicator is red, the oscilloscope TekProtect can no longer provide ESD protection. Do not use an oscilloscope with a defective TekProtect. Return the instrument to Tektronix Service for repair.
5. If the Health Checker status indicator is yellow, verify that TekProtect is installed, and redo step 1, and rerun the test.
6. Repeat these steps to test the remaining channel inputs on the oscilloscope.
7. When done checking TekProtect on all input channels, disconnect the Health Checker and push the oscilloscope Default Setup button.

Standard accessories

Accessory	Tektronix part number
Cable, USB 2.0, USB A Male to MICRO-USB B Male; 1.64 Ft;	174-6753-00
Coaxial cable, SMA-Male to SMA-Male, 50 Ω, 1 Ft	174-6754-00
User manual	071-3376-xx

Environmental considerations

Characteristics	Description
Restriction of hazardous substances	This product is classified as an industrial monitoring and control instrument accessory, and is not required to comply with the substance restrictions of the recast RoHS Directive 2011/65/EU until July 22, 2017.
	Equipment Recycling. This product complies with the European Union's requirements according to Directive 2012/19/EU on waste electrical and electronic equipment (WEEE). For more information about recycling options, check the Support/Service section of the Tektronix Web site (www.tektronix.com).

Contacting Tektronix

Web site:	www.tektronix.com
Phone:	1–800–833–9200
Address:	Tektronix, Inc. Department or name (if known) 14200 SW Karl Braun Drive P.O. Box 500 Beaverton, OR 97077 USA
Email:	techsupport@tektronix.com

Warranty information

For warranty information, go to www.tektronix.com/warranty.

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